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FILING DATE: May 04, 2000

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL PATENT APPLICATION under 37 CFR §1.53(b)(2).

Docket Number		CM2334FP		Type a plus sign (+) inside this box ⇒		+
INVENTOR(s) / APPLICANT(s)						
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)			
EVANS VANOOSTHUYZE	Erica Kristina	L EI	Hungerford, Berkshire, GB Horsell Woking, Surrey, GB			
TITLE OF THE INVENTION (280 characters max)						
Cosmetic Compositions						
CORRESPONDENCE ADDRESS						
T. David Reed The Procter & Gamble Company Ivorydale Technical Center 5299 Spring Grove Avenue Cincinnati						
STATE	Ohio	ZIP CODE	45217	COUNTRY	USA	
ENCLOSED APPLICATION PARTS (check all that apply)						
<input checked="" type="checkbox"/> Specification	Number of Pages: 39		+ 1 Abstract	TOTAL Sheets = 40		Small Entity Statement
<input type="checkbox"/> Drawing(s)	Number of Sheets: _____		Other (specify) _____			
METHOD OF PAYMENT (check one)						
<input type="checkbox"/> A check or money order is enclosed to cover the Provisional filing fees				PROVISIONAL FILING FEE AMOUNT(S)		\$150.00
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge filing fees specified under 37 CFR §1.19(f) and credit Deposit Account Number: 16-2480				PROVISIONAL FILING FEE AMOUNT(S)		\$150.00

The invention was made by an agency of the United States Government or under a contract with an agency of United States Government.

☒ No

☐ Yes, the name of the U. S. Government agency and the Government contract number are: _____

Respectfully submitted,

SIGNATURE

Date

4 May 00

TYPED or PRINTED NAME

T. David Reed

REGISTRATION NO.

32,931

(if appropriate)

Additional inventors are being named on separately numbered sheets attached hereto

PROVISIONAL PATENT APPLICATION FILING ONLY

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COSMETIC METHOD

10

Erica Louise Evans
Kristina Emma Inge Vanoosthuyze

15

Technical Field

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The present invention relates to a cosmetic method. In particular, the present invention relates to a cosmetic method of treating the skin that provides good moisturisation, hydration, skin feel, skin softness and/or skin smoothness benefits.

Background to the Invention

25

Skin is made up of several layers of cells which coat and protect the keratin and collagen fibrous proteins that form the skeleton of its structure. The outermost of these layers, referred to as the stratum corneum, is known to be composed of 25nm protein bundles surrounded by 8nm thick layers. Anionic surfactants and organic solvents typically penetrate the stratum corneum membrane and, by delipidization (i.e. removal of the lipids from the stratum corneum), destroy its integrity. This destruction of the skin surface topography leads to a rough feel and may eventually permit the surfactant or solvent to interact with the keratin, creating irritation.

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It is now recognised that maintaining the proper water gradient across the stratum corneum is important to its functionality. Most of this water, which is

sometimes considered to be the stratum corneum's plasticizer, comes from inside the body. If the humidity is too low, such as in a cold climate, insufficient water remains in the outer layers of the stratum corneum to properly plasticize the tissue, and the skin begins to scale and becomes itchy. Skin permeability is also decreased somewhat when there is inadequate water across the stratum corneum. On the other hand, too much water on the outside of the skin causes the stratum corneum to ultimately sorb three to five times its own weight of bound water. This swells and puckers the skin and results in approximately a two to three fold increase in the permeability of the skin to water and other polar molecules.

Thus, a need exists for a method of assisting the stratum corneum in maintaining its barrier and water-retention functions at optimum performance in spite of deleterious interactions which the skin may encounter in washing, work, and recreation.

In the past methods of treating the skin have often utilised compositions comprising one or more 'skin benefit agents'. These skin benefit agents are often water soluble. For example, one way of delivering high moisturisation to the skin is to incorporate polyhydric alcohol-like humectant materials such as glycerine into a composition. Skin compositions with high levels of polyhydric alcohols and therefore high levels of moisturisation, however, are often perceived by the consumer as unpleasant as such compositions can feel sticky or tacky when applied to the skin. There appears to be a direct relationship between the amount of the skin benefit agent and the effectiveness of the composition at delivering benefits to the skin. However, it is also the case that the higher the level of skin benefit agent the higher the risk of the associated negatives. One way of alleviating this problem is by rinsing the skin with water. However, this rinsing of the skin will also wash away the skin benefit agent particularly if said benefit agent is water-soluble.

Quaternary ammonium agents are also known for use in cosmetic compositions. See, for example, WO-A-99/27904, WO-A-96/32089, and EP-A-789,076. Also, US-A-5,804,205 which discloses skin care compositions which are claimed to provide a high degree of moisturisation without leaving a "tacky" or "sticky" residue. The compositions contain quaternary ammonium compounds having

two alkyl groups of 16-22 carbon atoms, humectant and non-irritating hydrophobic microspheres having an average particle size of less than 50 μm . It is claimed that the hydrophobic polymeric microspheres significantly reduce the "tackiness" associated with high humectant levels. Also disclosed in US-A-5,804,205 is a method of treating the skin with such compositions. However, the quaternary ammonium agents commonly used in the prior art are often not readily biodegradable and can, therefore, be harmful to the environment.

10 It has now been unexpectedly found that cosmetic methods comprising treating the skin with compositions comprising at least one quaternary ammonium agent and humectant and then rinsing the skin provide benefits such as good moisturisation, hydration, skin feel, skin softness and skin smoothness, but show low levels of negatives such as greasiness, stickiness or tackiness.

15 While not wishing to be bound by theory, it is believed that in the composition used in the present method the quaternary ammonium agents of the present invention can vesiculate the humectants and drive their deposition onto the skin. This results in a smooth and uniform application of the humectant to the skin with minimal tack/stickiness/greasiness. The rinsing step is believed to further reduce the negatives by washing away the excess humectant which causes the skin to feel sticky or greasy. Prior art methods comprising a rinsing step would often wash away much of the benefit agent. With the present method, however, it is believed that the quaternary ammonium agents retard the loss of the benefit agent while helping mitigate the usual negative. Even when the compositions used in the present methods comprise extremely high percentages of humectant, for example 30% by weight, there are only low levels of the usual negatives. Also, it is believed that the quaternary ammonium agents help reduce the loss of humectants from the skin due to environmental factors such as water from the rinsing step or abrasion from clothes or during washing. Moreover, it is believed that the quaternary ammonium agents themselves deliver skin care benefits, such as good moisturisation, good skin feel, good skin softness.

Summary of the Invention

35 According to the present invention there is provided a cosmetic method comprising:

- (i) applying to the skin a composition comprising:
 - (a) at least one quaternary ammonium agent; and
 - (b) humectant;
- (ii) rinsing the skin.

The methods of the present invention give good skin care benefits, such as good moisturisation, good hydration, good skin feel, good skin softness and/or good skin smoothness, with low levels of negatives such as greasiness, stickiness or tack.

Detailed Description of the Invention

The present methods comprise applying to the skin compositions comprising at least one quaternary ammonium agent and humectant and then rinsing the skin.

Cosmetic Methods

The methods of the present invention comprises applying to the skin a composition comprising at least one quaternary ammonium agent and humectant and then rinsing the skin. The compositions for use in the methods herein are described in more detail below.

The methods of the present invention give good skin care benefits, such as good moisturisation, good hydration, good skin feel, good skin softness and/or good skin smoothness, with low levels of negatives such as greasiness, stickiness or tack. In particular, the present method provides good moisturisation and hydration benefits to the skin but does not leave the skin feeling greasy. The present method must comprise the steps of:

- (i) applying to the skin a composition comprising:
 - (a) at least one quaternary ammonium agent; and
 - (b) humectant;
- (ii) rinsing the skin.

Step (i) can be performed on wet skin or dry skin. For extra moisturisation and/or hydration benefits it is preferred that step (i) is performed on dry skin. Therefore, one preferred aspect of the present method comprises:

- (i) applying to dry skin a composition comprising at least one quaternary ammonium agent and humectant;
- (ii) rinsing the skin.

5 Another preferred aspect of the present invention involves the above method with an additional application of the composition on wet skin. Therefore, a preferred method comprises:

- (i) applying to dry skin a composition comprising at least one quaternary ammonium agent and humectant;
- 10 (ii) rinsing the skin under a shower;
- (iii) further application of said composition; and
- (iv) further rinsing.

15 Much of the damage to human skin is caused by repeated exposure to surfactant containing compositions during washing routines. It has been found that this damage can be mitigated by the present method. Therefore, another preferred aspect of the present method comprises:

- (i) washing the skin using a composition comprising surfactants;
- (ii) rinsing the skin;
- 20 (iii) applying to the wet skin a composition comprising at least one quaternary ammonium agent and humectant;
- (iv) rinsing the skin.

25 It has also been found that the present method is particularly useful when incorporated as part of a regular routine. Therefore, another preferred aspect of the present method comprises:

- (i) applying to the skin a composition comprising:
 - (a) at least one quaternary ammonium compound;
 - (b) humectant; and
- 30 (ii) rinsing the skin;
- (iii) repeating steps (i) and (ii) within 48 hours.

35 It has also been found that the present method is useful when incorporated as part of a regular shaving routine. Therefore, another preferred aspect of the present method comprises:

- (i) shaving the skin;

- (ii) optionally, rinsing the skin;
 - (iii) applying to the skin a composition comprising:
 - (a) at least one quaternary ammonium compound;
 - (b) humectant; and
- 5 (ii) rinsing the skin;

The present methods can also be useful in mitigating damage caused by exposure of the skin to ultra violet radiation, damage caused by exposure of the skin to water during swimming or similar water based exercise, or damage
 10 caused by exposure of the skin to water during bathing.

Composition

Preferably the compositions for use in the present method comprise vesicles comprising quaternary ammonium agent and humectant. As used herein the term
 15 "vesicle" means one or more bilayers arranged in a closed, usually spherical geometry, said bilayer comprises quaternary ammonium agent as described hereinbelow. Preferably, said vesicles comprise quaternary ammonium agent and humectant. In the compositions herein, the vesicles are preferably substantially spherical. The presence of vesicles in the present compositions
 20 can be detected by microscopic analysis (polarised light microscopy at a magnification of x60 using a Nikon Eclipse E800 microscope).

Preferably the vesicles herein have a number average size of from 0.01 μ m to 30 μ m, more preferably from 0.1 μ m to 15 μ m.

25 Preferably the compositions for use in the present method are in the form of creams, lotions, gels, and the like. Preferably the compositions for use in the present method are in the form of an oil-in-water emulsion of one or more oil phases in an aqueous continuous phase, each oil phase comprising a single oily
 30 component or a mixture of oily components in miscible or homogeneous form but said different oil phases containing different materials or combinations of materials from each other.

Preferably the compositions for use in the present method comprise less than
 35 10%, preferably less than 5%, more preferably less than 3%, even more preferably 0%, by weight, of anionic surfactant.

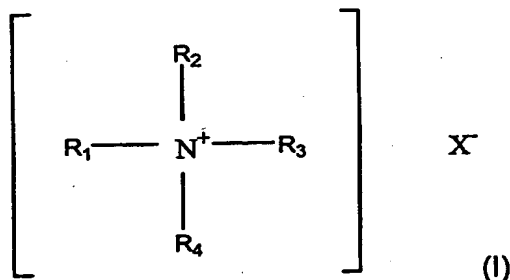
- The compositions of the present invention are preferably formulated so as to have a product viscosity of at least about 1,000 mPa.s and preferably in the range from about 1,000 to about 300,000 mPa.s, more preferably from about 2,500 to about 250,000 mPa.s and especially from about 5,000 to about 200,000 mPa.s (26.8°C, neat, Brookfield DV-II+ Spindle CP52/CP41).

Quaternary Ammonium Agent

- The compositions of the present invention must comprise at least one quaternary ammonium agent. Any quaternary ammonium agent suitable for use in cosmetic compositions may be used herein. As used herein the term "quaternary ammonium agent" means a compound or mixture of compounds having a quaternary nitrogen atom substituted with one or more, preferably two, moieties containing six or more carbon atoms. Preferably the quaternary ammonium agents for use herein are readily biodegradable. As used herein the term "readily biodegradable" means that, according to the OECD 301 test, at least 60% of the compounds mineralises within 28 days. Preferably the quaternary ammonium agents for use herein are selected from those having a quaternary nitrogen substituted with two moieties wherein each moiety comprises ten or more, preferably 12 or more, carbon atoms. Highly preferred quaternary ammonium agents for use herein are selected from those which are able to form vesicles in polar solvents, as detected by microscopic analysis (polarised light microscopy at a magnification of x60 using a Nikon Eclipse E800 microscope).
- Preferably the present compositions comprise at least 0.01%, more preferably at least 0.1%, even more preferably at least 1.5%, still more preferably at least 3%, by weight, of quaternary ammonium agent.

Preferably the quaternary ammonium agents for use herein are selected from:

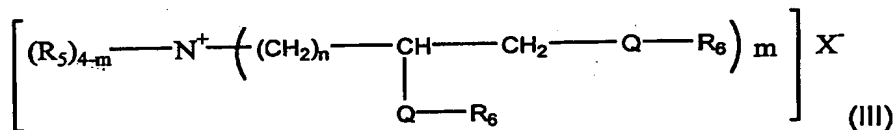
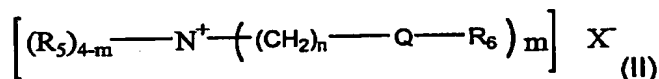
- (a) quaternary ammonium compounds according to general formula (I):



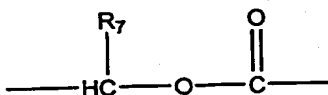
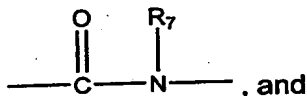
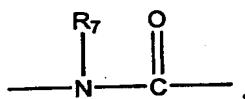
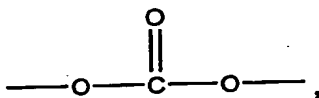
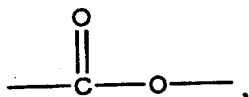
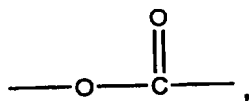
wherein, R_1 & R_2 are each C_1 - C_4 alkyl or C_1 - C_4 hydroxyalkyl groups or hydrogen. R_3 & R_4 are each alkyl or alkenyl groups having from about 8 to about 22 carbon atoms. X^- is a salt forming anion, compatible with quaternary ammonium compounds and other adjunct ingredients.

Preferred quaternary ammonium compounds of this type are quaternised amines having the general formula (I) where R_1 & R_2 are methyl or hydroxyethyl and R_3 & R_4 are linear or branched alkyl or alkenyl chains comprising at least 11 atoms, preferably at least 15 carbon atoms.

(b) quaternary ammonium compounds according to general formula (II) or (III):



wherein, each R_5 unit is independently selected from hydrogen, branched or straight chain C_1 - C_6 alkyl, branched or straight chain C_1 - C_6 hydroxyalkyl and mixtures thereof, preferably methyl and hydroxyethyl; each R_6 unit is independently linear or branched C_{11} - C_{22} alkyl, linear or branched C_{11} - C_{22} alkenyl, and mixtures thereof; X^- is an anion which is compatible with skin care actives and adjunct ingredients; m is from 1 to 4, preferably 2; n is from 1 to 4, preferably 2 and Q is a carbonyl unit selected from:



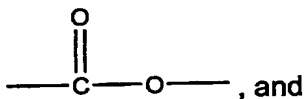
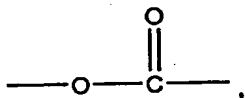
wherein R_7 is hydrogen, C_1 - C_4 alkyl, C_1 - C_4 hydroxyalkyl, and mixtures thereof.

- 15 In the above quaternary ammonium compound example, the unit $-QR_8$ contains a fatty acyl unit which is typically derived from a triglyceride source. The triglyceride source is preferably derived from tallow, partially hydrogenated tallow, lard, partially hydrogenated lard, vegetable oils and/or partially hydrogenated vegetable oils, such as, canola oil, safflower oil, peanut oil, rapeseed oil, sunflower oil, corn oil, soybean oil, tall oil, rice bran oil, etc. and mixtures of these oils.

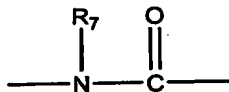
- 25 The counterion, X^- in the above compounds, can be any compatible anion, preferably the anion of a strong acid, for example, chloride, bromide, methylsulfate, ethylsulfate, sulfate, nitrate and the like, more preferably chloride or methyl sulfate. The anion can also, but less preferably, carry a double charge in which case X^- represents half a group.

The preferred quaternary ammonium compounds of the present invention are the diester and/or diamide Quaternary Ammonium (DEQA) compounds, the diesters and diamides having general formula (II), wherein the carbonyl group Q is selected from:

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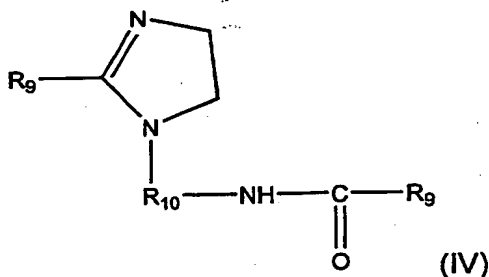


Tallow, canola and palm oil are convenient and inexpensive sources of fatty acyl units which are suitable for use in the present invention as R_6 units.

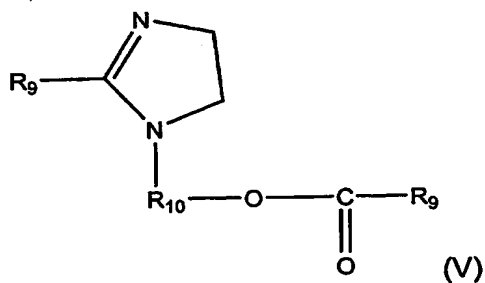
15 The counterion, X^- , can be chloride, bromide, methylsulfate, formate, sulfate, nitrate, and mixtures thereof. In fact, the anion, X^- , is merely present as a counterion of the positively charged quaternary ammonium compounds. The scope of this invention is not considered limited to any particular anion.

20 As used herein, when the diester is specified, it will include the monoester and triester that are normally present as a result of the manufacture process.

(c) quaternary ammonium compounds according to general formula (IV) or (V):



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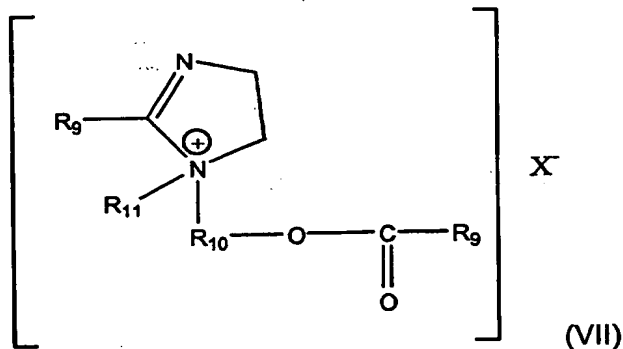
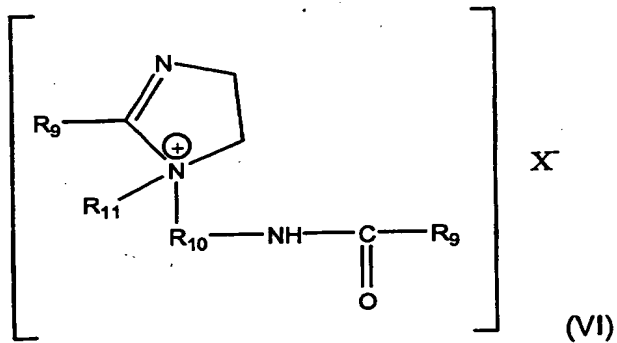
wherein R_9 is an acyclic aliphatic C_{15} - C_{21} hydrocarbon group and R_{10} is a C_1 - C_6 alkyl or alkylene group.

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These ammonium compounds, having a pK_a value of not greater than about 4, are able to generate a cationic charge in situ when dispersed in an aqueous solution, providing that the pH of the final composition is not greater than about 6.

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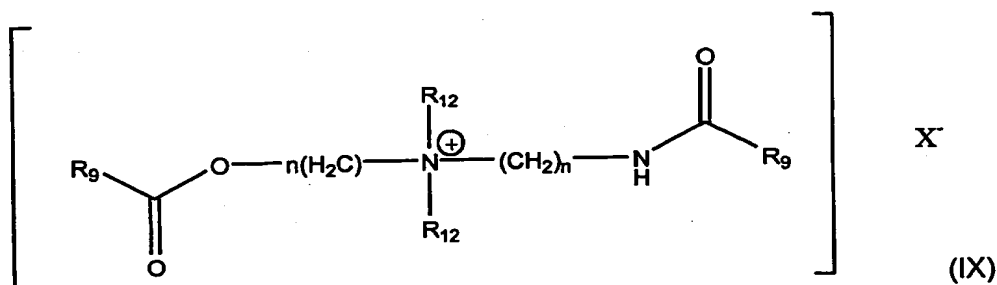
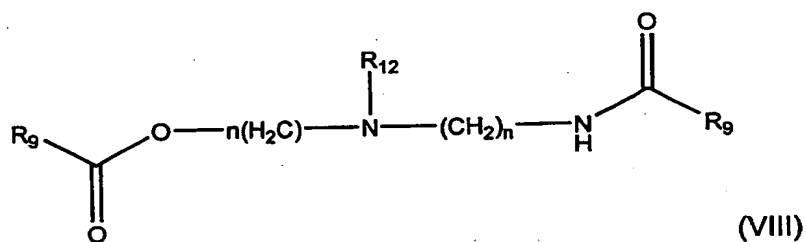
(d) quaternary ammonium compounds according to general formula (VI) or (VII):



15

wherein R_9 & R_{10} are as specified hereinabove and R_{11} is selected from C_1 - C_4 alkyl and hydroxyalkyl groups.

- 5 The counterion, X^- , can be chloride, bromide, methylsulfate, formate, sulfate, nitrate, and mixtures thereof. In fact, the anion, X , is merely present as a counterion of the positively charged quaternary ammonium compounds. The scope of this invention is not considered limited to any particular anion.
- 10 (e) quaternary ammonium compounds according to general formula (VIII) or (IX):



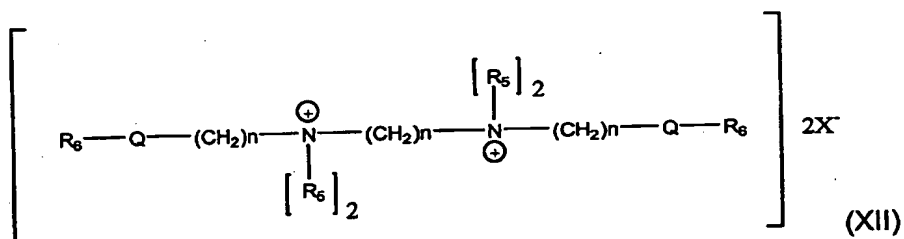
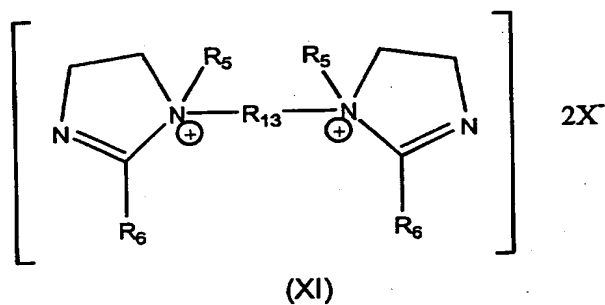
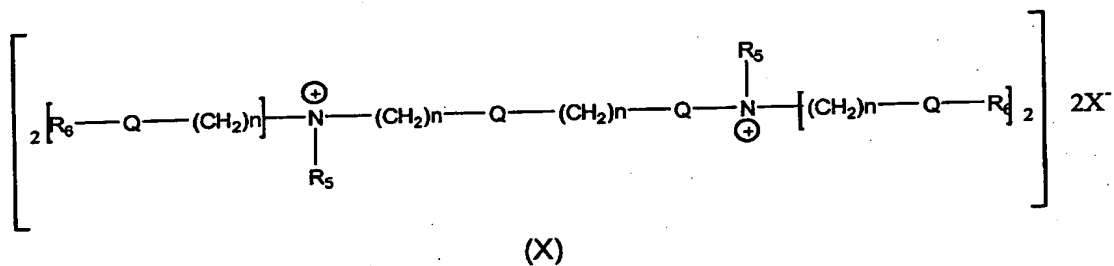
- 15 wherein, n is from 1 to 6, R_9 is selected from acyclic aliphatic C_{15} - C_{21} hydrocarbon groups and R_{12} is selected from C_1 - C_4 alkyl and hydroxyalkyl groups.

- 20 These ammonium compounds (VIII), having a pK_a value of not greater than about 4, are able to generate a cationic charge in situ when dispersed in an aqueous solution, providing that the pH of the final composition is not greater than about 6.

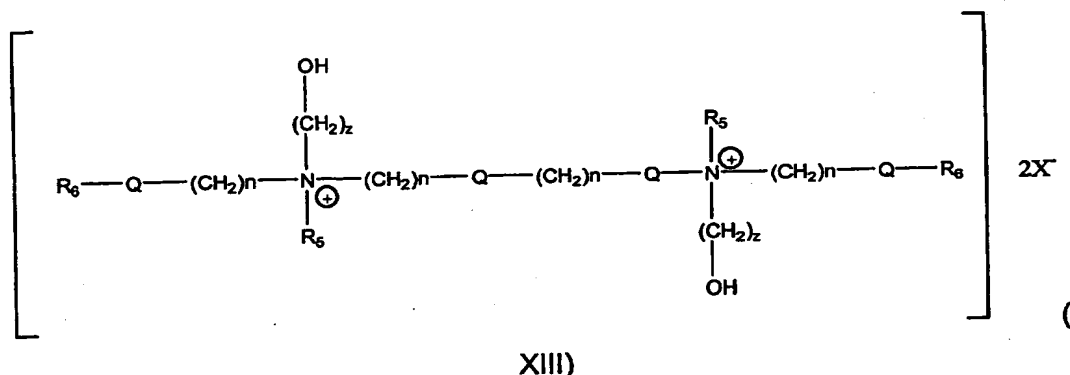
- 25 The counterion, X^- (IX), can be chloride, bromide, methylsulfate, formate, sulfate, nitrate, and mixtures thereof. In fact, the anion, X , is merely present as a

counterion of the positively charged quaternary ammonium compounds. The scope of this invention is not considered limited to any particular anion.

- (f) diquaternary ammonium compounds according to general formula (X), (XI), (XII) or (XIII):



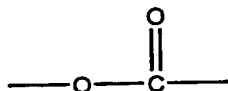
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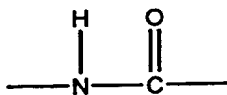
- wherein R_5 , R_6 , Q , n & X^- are as defined hereinabove in relation to general formula (II) and (III), R_{13} is selected from C_1 - C_6 alkylene groups, preferably an ethylene group and z is from 0 to 4.

(g) mixtures of the above quaternary ammonium compounds.

- 10 The preferred quaternary ammonium agents for use in the present invention are those described in section (b) hereinabove. In particular, diester and/or diamide quaternary ammonium (DEQA) compounds according to general formula (II) hereinabove are preferred. Preferred diesters for use herein are those according to general formula (II) wherein R_5 , R_6 , and X^- are as defined hereinabove and Q is:



- Preferred diamides for use herein are those according to general formula (II) wherein R_5 , R_6 , and X^- are as defined hereinabove and Q is:



- Preferred examples of quaternary ammonium compounds suitable for use in the compositions of the present invention are N,N-di(canolyloxy-ethyl)-N,N-dimethyl ammonium chloride, N,N-di(canolyloxy-ethyl)-N-methyl,N-(2-hydroxyethyl) ammonium methyl sulfate, N,N-di(canolyloxy-ethyl)-N-methyl, N-(2-hydroxyethyl)

ammonium chloride and mixtures thereof. Particularly preferred for use herein is N,N-di(canolyloxy-ethyl)-N-methyl,N-(2-hydroxyethyl) ammonium methyl sulfate.

- Although quaternary ammonium compounds are derived from "canolyl" fatty acyl groups are preferred, other suitable examples of quaternary ammonium compounds are derived from fatty acyl groups wherein the term "canolyl" in the above examples is replaced by the terms "tallowyl, cocoyl, palmyl, lauryl, oleyl, ricinoleyl, stearyl, palmityl" which correspond to the triglyceride source from which the fatty acyl units are derived. These alternative fatty acyl sources can comprise either fully saturated, or preferably at least partly unsaturated chains.

Humectant

- A second essential element of the compositions of the present method is that they comprise humectant. As used herein the term "humectant" means a substance which provides the skin with water-retention benefits. Preferably, the compositions of the present invention comprise at least 1%, more preferably at least 5%, even more preferably at least 10%, still more preferably at least 20%, even more preferably at least 30%, by weight, of humectant.

- Any humectant suitable for use in cosmetic compositions may be used herein. Non-limiting examples of suitable humectants for use in the present invention are described in WO98/22085, WO98/18444 and WO97/01326. Preferably the humectants for use herein are selected from, but not limited to; amino acids and derivatives thereof such as proline and arginine aspartate, 1,3-butylene glycol, propylene glycol and water and codium tomentosum extract, collagen amino acids or peptides, creatinine, diglycerol, biosaccharide gum-1, glucamine salts, glucuronic acid salts, glutamic acid salts, polyethylene glycol ethers of glycerine (e.g. glycereth 20), glycerine, glycerol monopropoxylate, glycogen, hexylene glycol, honey, and extracts or derivatives thereof, hydrogenated starch hydrolysates, hydrolyzed mucopolysaccharides, inositol, keratin amino acids, urea, LAREX A-200 (available from Larex), glycosaminoglycans, methoxy PEG 10, methyl gluceth-10 and -20 (both commercially available from Amerchol located in Edison, NJ), methyl glucose, 3-methyl-1,3-butanediol, N-acetyl glucosamine salts, polyethylene glycol and derivatives thereof (such as PEG 15 butanediol, PEG 4, PEG 5 pentaerythritol, PEG 6, PEG 8, PEG 9), pentaerythritol, 1,2 pentanediol, PPG-1 glyceryl ether, PPG-9, 2-pyrrolidone-5-carboxylic acid

and its salts such as glyceryl pca, saccharide isomerate, SEACARE (available from Secma), sericin, silk amino acids, sodium acetylhyaluronate, sodium hyaluronate, sodium poly-aspartate, sodium polyglutamate, sorbeth 20, sorbeth 6, sugar and sugar alcohols and derivatives thereof such as glucose, mannose and polyglycerol sorbitol, trehalose, triglycerol, trimethylpropane, tris (hydroxymethyl) amino methane salts, and yeast extract, and mixtures thereof.

More preferably, the humectants for use herein are selected from glycerine, urea, butylene glycol, polyethylene glycol and derivatives thereof, and mixtures thereof. Even more preferably, the humectants for use herein are selected from glycerine, urea and mixtures thereof, especially glycerine.

Optional Ingredients

The compositions herein can contain a variety of optional components suitable for rendering the present compositions more cosmetically or aesthetically acceptable or to provide them with additional usage benefits. Such conventional optional ingredients are well-known to those skilled in the art. These include any cosmetically acceptable ingredients such as those found in the *CTFA International Cosmetic Ingredient Dictionary and Handbook, 7th edition, edited by Wenninger and McEwen, (The Cosmetic, Toiletry, and Fragrance Association, Inc., Washington, D.C., 1997)*. Some non-limiting examples of these optional ingredients are given below.

Polar Solvent

The compositions of the present invention may also comprise polar solvent. Any polar solvent suitable for use in cosmetic compositions may be used herein. However, the polar solvent must be sufficiently polar to drive the formation of vesicles in the present invention. Preferably the polar solvent used in the compositions of the present invention is water.

Preferably the present compositions will comprise from 10% to 90%, more preferably from 20% to 80%, even more preferably from 30% to 60%, by weight, of polar solvent.

Emollients

A highly preferred optional ingredient of the compositions of the present invention is emollient. Emollients tend to lubricate the skin, increase the smoothness and suppleness of the skin, prevent or relieve dryness of the skin, and/or protect the skin. A wide variety of suitable emollients are known and may be used herein. 5 *Sagarin, Cosmetics, Science and Technology, 2nd Edition, Vol. 1, pp. 32-43 (1972)* contains numerous examples of materials suitable for use as emollients. Preferably the compositions of the present invention comprise greater than 1%, more preferably at least 5%, even more preferably at least 10%, by weight, of 10 emollient.

Preferably the emollients for use herein are selected from:

- i) Straight and branched chain hydrocarbons having from about 7 to about 40 carbon atoms, such as dodecane, squalane, petrolatum, cholesterol and derivatives thereof, hydrogenated polyisobutylene, isohexadecane and the C_7 - C_{40} isoparaffins, which are C_7 - C_{40} branched hydrocarbons. 15
- ii) C_1 - C_{30} alcohol esters of C_1 - C_{30} carboxylic acids and of C_2 - C_{30} dicarboxylic acids, e.g. isononyl isononanoate, isopropyl myristate, myristyl propionate, isopropyl stearate, behenyl behenate, dioctyl maleate, diisopropyl adipate, and diisopropyl dilinoleate. 20
- iii) mono-, di- and tri- glycerides of C_1 - C_{30} carboxylic acids and ethoxylated derivatives thereof. Suitable polyethylene glycol derivatives of glycerides include PEG-20 almond glycerides, PEG-60 almond glycerides, PEG-11 avocado glycerides, PEG-6 capric/caprylic glycerides, PEG-8 capric/caprylic glycerides, PEG-20 corn glycerides, PEG-60 corn glycerides, PEG-60 evening primrose glycerides, PEG-7 glyceryl cocoate, PEG-30 glyceryl cocoate, PEG-40 glyceryl cocoate, PEG-78 glyceryl cocoate, PEG-80 glyceryl cocoate, PEG-12 glyceryl dioleate, PEG-15 glyceryl isostearate, PEG-20 glyceryl isostearate, PEG-30 glyceryl isostearate, PEG-75 cocoa butter glycerides, PEG-20 hydrogenated palm oil glycerides, PEG-70 mango glycerides, PEG-13 mink glycerides, PEG-75 shorea butter glycerides, PEG-10 olive glycerides, PEG-12 palm kernal glycerides, PEG-45 palm kernal glycerides, PEG-8 glyceryl laurate and PEG-30 glyceryl laurate. Mixtures of polyethylene glycol derivatives of glycerides can also be used herein. 25 30

- iv) alkylene glycol esters of C_1 - C_{30} carboxylic acids, e.g. ethylene glycol mono- and di- esters, and propylene glycol mono- and di- esters of C_1 - C_{30} carboxylic acids e.g., ethylene glycol distearate.
- 5 v) Organopolysiloxane oils. The organopolysiloxane oil may be volatile, non-volatile, or a mixture of volatile and non-volatile silicones. The term "non-volatile" as used in this context refers to those silicones that are liquid under ambient conditions and have a flash point (under one atmospheric of pressure) of or greater than about 100°C . The term "volatile" as used in this context refers to all other silicone oils. Suitable organopolysiloxanes can be
- 10 selected from a wide variety of silicones spanning a broad range of volatilities and viscosities. Non-volatile polysiloxanes are preferred. Suitable silicones are disclosed in U.S. Patent No. 5,069,897, issued December 3, 1991. Preferred for use herein are organopolysiloxanes selected from polyalkylsiloxanes, alkyl substituted dimethicones, dimethiconols, polyalkylaryl siloxanes, and mixtures thereof. More preferred for use herein are polyalkylsiloxanes and cyclomethicones. Preferred among the polyalkylsiloxanes are dimethicones.
- 15 vi) Vegetable oils and hydrogenated vegetable oils. Examples of vegetable oils and hydrogenated vegetable oils include safflower oil, castor oil, coconut oil, cottonseed oil, menhaden oil, palm kernel oil, palm oil, peanut oil, soybean oil, rapeseed oil, linseed oil, rice bran oil, pine oil, sesame oil, sunflower seed oil, partially and fully hydrogenated oils from the foregoing sources, and mixtures thereof.
- 20 vii) animal fats and oils, e.g. cod liver oil, lanolin and derivatives thereof such as acetylated lanolin and isopropyl lanolate. Lanolin oil is preferred.
- 25 viii) Also useful are C_4 - C_{20} alkyl ethers of polypropylene glycols, C_1 - C_{20} carboxylic acid esters of polypropylene glycols, and di- C_8 - C_{30} alkyl ethers, examples of which include PPG-14 butyl ether, PPG-15 stearyl ether, dioctyl ether, dodecyl octyl ether, and mixtures thereof.
- 30 ix) polyol carboxylic acid esters.
- x) mixtures of the above.

Preferred emollients for use in the compositions herein are selected from dodecane, squalane, cholesterol and derivatives thereof, isohexadecane,

35 isononyl isononanoate, petrolatum, lanolin and derivatives thereof, safflower oil, castor oil, coconut oil, cottonseed oil, palm kernel oil, palm oil, peanut oil,

soybean oil, polyol carboxylic acid esters and mixtures thereof. More preferred emollients for use herein are selected from polyol carboxylic acid esters, petrolatum and mixtures thereof.

- 5 These esters are derived from a sugar or polyol moiety and one or more carboxylic acid moieties. Depending on the constituent acid and sugar, these esters can be in either liquid or solid form at room temperature. Examples of liquid esters include: glucose tetraoleate, the glucose tetraesters of soybean oil fatty acids (unsaturated), the mannose tetraesters of mixed soybean oil fatty acids, the galactose tetraesters of oleic acid, the arabinose tetraesters of linoleic acid, xylose tetralinoleate, galactose pentaoleate, sorbitol tetraoleate, the sorbitol hexaesters of unsaturated soybean oil fatty acids, xylitol pentaoleate, sucrose tetraoleate, sucrose pentaoleate, sucrose hexaoleate, sucrose hepatoleate, sucrose octaoleate, and mixtures thereof. Examples of solid esters include: sorbitol hexaester in which the carboxylic acid ester moieties are palmitoleate and arachidate in a 1:2 molar ratio; the octaester of raffinose in which the carboxylic acid ester moieties are linoleate and behenate in a 1:3 molar ratio; the heptaester of maltose wherein the esterifying carboxylic acid moieties are sunflower seed oil fatty acids and lignocerate in a 3:4 molar ratio; the octaester of sucrose wherein the esterifying carboxylic acid moieties are oleate and behenate in a 2:6 molar ratio; and the octaester of sucrose wherein the esterifying carboxylic acid moieties are laurate, linoleate and behenate in a 1:3:4 molar ratio. A preferred solid material is sucrose polyester in which the degree of esterification is 7-8, and in which the fatty acid moieties are C18 mono- and/or di-unsaturated and behenic, in a molar ratio of unsaturates: behenic of 1:7 to 3:5. A particularly preferred solid sugar polyester is the octaester of sucrose in which there are about 7 behenic fatty acid moieties and about 1 oleic acid moiety in the molecule. Other materials include cottonseed oil or soybean oil fatty acid esters of sucrose. The ester materials are further described in, U. S. Patent No. 2,831,854, U. S. Patent No. 4,005,196, to Jandacek, issued January 25, 1977; U. S. Patent No. 4,005,195, to Jandacek, issued January 25, 1977, U. S. Patent No. 5,306,516, to Letton et al., issued April 26, 1994; U. S. Patent No. 5,306,515, to Letton et al., issued April 26, 1994; U. S. Patent No. 5,305,514, to Letton et al., issued April 26, 1994; U. S. Patent No. 4,797,300, to Jandacek et al., issued January 10, 1989; U. S. Patent No. 3,963,699, to Rizzi et al, issued June 15,

1976; U. S. Patent No. 4,518,772, to Volpenhein, issued May 21, 1985; and U. S. Patent No. 4,517,360, to Volpenhein, issued May 21, 1985.

5 The polyol fatty acid polyesters suitable for use herein can be prepared by a variety of methods well known to those skilled in the art. These methods include: transesterification of the polyol with methyl, ethyl or glycerol fatty acid esters using a variety of catalysts; acylation of the polyol with a fatty acid chloride; acylation of the polyol with a fatty acid anhydride; and acylation of the polyol with a fatty acid, per se. See, for example, U.S. Patent No. 2,831,854; U.S. Patent
10 No. 4,005,196, to Jandacek, issued January 25, 1977.

An especially preferred material is known by the INCI name sucrose polycottonseedate.

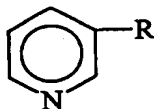
15 ***Other Skin Benefit Agents***

Other skin benefit agents may be useful in the compositions of the present method. Examples of other skin benefit agents that may be used in the present compositions include:

20 ***(a) Vitamin Compounds***

The present compositions may comprise vitamin compounds, precursors, and derivatives thereof. These vitamin compounds may be in either natural or synthetic form. Suitable vitamin compounds include, Vitamin A (e.g., beta carotene, retinoic acid, retinol, retinoids, retinyl palmitate, retinyl propionate, etc.), Vitamin B (e.g., niacin, niacinamide, riboflavin, pantothenic acid, etc.),
25 Vitamin C (e.g., ascorbic acid, etc.), Vitamin D (e.g., ergosterol, ergocalciferol, cholecalciferol, etc.), Vitamin E (e.g., tocopherol acetate, etc.), and Vitamin K (e.g., phytonadione, menadione, phthiocol, etc.) compounds. Preferred vitamin compounds for use in the compositions of the present invention are vitamin B₃
30 compounds. Vitamin B₃ compounds are particularly useful for regulating skin condition as described WO-A-97/39733. When present, the compositions of the present invention preferably comprise from about 0.01% to about 50%, more preferably from about 0.1% to about 10%, even more preferably from about 0.5% to about 5%, by weight, of the vitamin B₃ compound.

35 As used herein, "vitamin B₃ compound" means a compound having the formula:



5 wherein R is $-\text{CONH}_2$ (i.e., niacinamide), $-\text{COOH}$ (i.e., nicotinic acid) or $-\text{CH}_2\text{OH}$ (i.e., nicotiny alcohol); derivatives thereof; and salts of any of the foregoing.

10 Exemplary derivatives of the foregoing vitamin B_3 compounds include nicotinic acid esters, including non-vasodilating esters of nicotinic acid, nicotiny amino acids, nicotiny alcohol esters of carboxylic acids, nicotinic acid N-oxide and niacinamide N-oxide.

15 Examples of suitable vitamin B_3 compounds are well known in the art and are commercially available from a number of sources, e.g., the Sigma Chemical Company (St. Louis, MO); ICN Biomedicals, Inc. (Irvin, CA) and Aldrich Chemical Company (Milwaukee, WI).

20 The vitamin compounds may be included as the substantially pure material, or as an extract obtained by suitable physical and/or chemical isolation from natural (e.g., plant) sources.

20 **(b) Anti-Wrinkle and Anti-Skin Atrophy Actives**

25 Examples of anti-wrinkle and anti-skin atrophy actives that may be used in the compositions of the present invention include, but are not limited to, lactic acid and derivatives thereof, retinoic acid and its derivatives (e.g., cis and trans); retinol; retinyl esters; niacinamide, salicylic acid and derivatives thereof; sulfur-containing D and L amino acids and their derivatives and salts, particularly the N-acetyl derivatives, a preferred example of which is N-acetyl-L-cysteine; thiols, e.g., ethane thiol; hydroxy acids, phytic acid, lipoic acid; lysophosphatidic acid, and skin peel agents (e.g., phenol and the like).

30

(c) Antimicrobial and Antifungal Actives

Examples of antimicrobial and antifungal actives that may be used in the compositions of the present invention include, but are not limited to, β -lactam drugs, quinolone drugs, ciprofloxacin, norfloxacin, tetracycline, erythromycin,

amikacin, 2,4,4'-trichloro-2'-hydroxy diphenyl ether, 3,4,4'-trichlorocarbanilide, phenoxyethanol, phenoxy propanol, phenoxyisopropanol, doxycycline, capreomycin, chlorhexidine, chlortetracycline, oxytetracycline, clindamycin, ethambutol, hexamidine isethionate, metronidazole, pentamidine, gentamicin, 5 kanamycin, lineomycin, methacycline, methenamine, minocycline, neomycin, netilmicin, paromomycin, streptomycin, tobramycin, miconazole, tetracycline hydrochloride, erythromycin, zinc erythromycin, erythromycin estolate, erythromycin stearate, amikacin sulfate, doxycycline hydrochloride, capreomycin sulfate, chlorhexidine gluconate, chlorhexidine hydrochloride, chlortetracycline 10 hydrochloride, oxytetracycline hydrochloride, clindamycin hydrochloride, ethambutol hydrochloride, metronidazole hydrochloride, pentamidine hydrochloride, gentamicin sulfate, kanamycin sulfate, lineomycin hydrochloride, methacycline hydrochloride, methenamine hippurate, methenamine mandelate, minocycline hydrochloride, neomycin sulfate, netilmicin sulfate, paromomycin 15 sulfate, streptomycin sulfate, tobramycin sulfate, miconazole hydrochloride, amanfadine hydrochloride, amanfadine sulfate, octopirox, parachlorometa xlenol, nystatin, tolnaftate, zinc pyrithione and clotrimazole.

(d) Sunscreen Actives

20 The compositions herein may also comprise sunscreening actives. A wide variety of sunscreen agents are useful herein. These sunscreen agents include both organic compounds and their salts as well as inorganic particulate materials. Without being limited by theory, it is believed that sunscreen agents provide protection from ultraviolet radiation by one or more of the following mechanisms including absorption, scattering, and reflection of the ultraviolet radiation. 25 Nonlimiting examples of these sunscreen agents are described in U.S. Patent No. 5,087,445, to Haffey et al., issued February 11, 1992; U.S. Patent No. 5,073,372, to Turner et al., issued December 17, 1991; U.S. Patent No. 5,073,371, to Turner et al. issued December 17, 1991; U.S. Patent No. 30 5,160,731, to Sabatelli et al., issued November 3, 1992; U.S. Patent No. 5,138,089, to Sabatelli, issued August 11, 1992; U.S. Patent No. 5,041,282, to Sabatelli, issued August 20, 1991; U.S. Patent No. 4,999,186, to Sabatelli et al., issued March 12, 1991; U.S. Patent No. 4,937,370, to Sabatelli, issued June 26, 1990; and Segarin, et al., at Chapter VIII, pages 189 et seq., of Cosmetics 35 Science and Technology. Preferred among the sunscreen agents are those selected from the group consisting of 2-ethylhexyl p-methoxycinnamate, octyl

salicylate, octocrylene, oxybenzone, 2-ethylhexyl N,N-dimethylaminobenzoate, p-aminobenzoic acid, 2-phenyl-benzimidazole-5-sulfonic acid, homomenthyl salicylate, DEA p-methoxycinnamate, 4,4'-methoxy-*t*-butyldibenzoylmethane, 4-isopropyldibenzoylmethane, 3-(4-methylbenzylidene) camphor, 3-benzylidene camphor, 4-N,N-dimethylaminobenzoic acid ester with 2,4-dihydroxybenzophenone, 4-N,N-dimethylaminobenzoic acid ester with 2-hydroxy-4-(2-hydroxyethoxy)benzophenone, 4-N,N-dimethylaminobenzoic acid ester with 4-hydroxydibenzoyl-methane, 4-N,N-dimethylaminobenzoic acid ester with 4-(2-hydroxyethoxy)dibenzoylmethane, 4-N,N-di(2-ethylhexyl)-aminobenzoic acid ester with 2,4-dihydroxybenzophenone, 4-N,N-di(2-ethylhexyl)aminobenzoic acid ester with 2-hydroxy-4-(2-hydroxyethoxy)benzophenone, 4-N,N-di(2-ethylhexyl)aminobenzoic acid ester with 4-hydroxydibenzoylmethane, 4-N,N-di(2-ethylhexyl)aminobenzoic acid ester with 4-(2-hydroxyethoxy)dibenzoylmethane, 4-N,N-(2-ethylhexyl)methylaminobenzoic acid ester with 2,4-dihydroxybenzophenone, 4-N,N-(2-ethylhexyl)methylaminobenzoic acid ester with 2-hydroxy-4-(2-hydroxyethoxy)benzophenone, 4-N,N-(2-ethylhexyl)methylaminobenzoic acid ester with 4-hydroxydibenzoylmethane, 4-N,N-(2-ethylhexyl)methylaminobenzoic acid ester with 4-(2-hydroxyethoxy)dibenzoylmethane, titanium dioxide, zinc oxide, iron oxide, and mixtures thereof.

More preferred for use in the compositions described herein are the sunscreen agents selected from the group consisting of 2-ethylhexyl N,N-dimethyl-p-aminobenzoate, 2-ethylhexyl p-methoxycinnamate, octocrylene, octyl salicylate, homomenthyl salicylate, p-aminobenzoic acid, oxybenzone, 2-phenylbenzimidazole-5-sulfonic acid, DEA p-methoxycinnamate, 4,4'-methoxy-*t*-butyldibenzoylmethane, 4-isopropyl dibenzoylmethane, 3-(4-methylbenzylidene) camphor, 3-benzylidene camphor, 4-N,N-(2-ethylhexyl)methylaminobenzoic acid ester with 4-(2-hydroxyethoxy)dibenzoylmethane, titanium dioxide, zinc oxide, iron oxide, and mixtures thereof.

Exact amounts of sunscreens which can be employed will vary depending upon the sunscreen chosen and the desired Sun Protection Factor (SPF) to be achieved. SPF is a commonly used measure of photoprotection of a sunscreen against erythema. See Federal Register, Vol. 43, No. 166, pp. 38206-38269, August 25, 1978.

Thickeners

The compositions of the present invention preferably comprise thickeners. Any thickener suitable for use in cosmetic compositions can be used herein.

- 5 Preferred thickeners are selected from nonionic water-soluble polymers, fatty alcohols and mixtures thereof. Suitable nonionic polymers include such water soluble polymers as cellulose ethers (e.g. hydroxybutyl methyl cellulose, hydroxypropylcellulose, hydroxypropyl methyl cellulose, ethylhydroxy ethyl cellulose, hydrophobically modified hydroxyethyl cellulose and
- 10 hydroxyethylcellulose), poly(ethylene oxide), polyvinyl alcohol, polyvinylpyrrolidone, hydroxypropyl guar gum, amulose, hydroxyethyl amylose, starch, and starch derivatives. Suitable fatty alcohols are higher molecular weight, nonvolatile, primary alcohols having the general formula



- wherein R is a C₈-₂₀ alkyl. They can be produced from natural fats or oils by reduction of the fatty acid COOH-grouping to the hydroxyl function. Alternatively, identical or similarly structured fatty alcohols can be produced according to
- 20 conventional synthetic methods known in the art. Suitable fatty alcohols include, but are not limited to behenylalcohol, C₈-C₁₁ alcohols, C₁₂-C₁₃ alcohols, C₁₂-C₁₅ alcohols, C₁₂-C₁₈ alcohols, C₁₄-C₁₅ alcohols, caprylic alcohol, cetearyl alcohol, coconut alcohol, decyl alcohol, isocetyl alcohol, isostearyl alcohol, lauryl alcohol, oleyl alcohol, palm kernel alcohol, stearyl alcohol, cetyl alcohol, tallow alcohol,
- 25 tridecyl alcohol or myristyl alcohol.

Other Optional Ingredients

- The compositions useful in the present method can comprise a wide range of other optional components. These additional components should be
- 30 pharmaceutically acceptable. Non-limiting examples of functional classes of ingredients suitable for use in the compositions of the present invention include: abrasives, absorbents, anti-acne actives, anticaking agents, anti-dandruff agents, anti-perspirant agents, antioxidants, anti-viral actives, artificial tanning actives and accelerators, biological additives, bleach, bleach activators, brighteners,
- 35 builders, buffering agents, chelating agents, chemical additives, colorants, cosmetics, cleansers, cosmetic astringents, cosmetic biocides, denaturants,

deodorants, desquamation actives, depilatories, drug astringents, dyes, dye transfer agents, enzymes, external analgesics, foam generators, flavours, film formers, fragrance components, insect repellents, mildewcides, non-steroidal anti-inflammatory active, opacifying agents, oxidative dyes, oxidising agents, pest control ingredients, pH adjusters such as citric acid, pH buffers, pharmaceutical actives, plasticizers, preservatives, radical scavengers, skin, hair or nail bleaching agents, skin, hair or nail conditioners, skin, hair or nail penetration enhancers, stabilisers, surfactants, surface conditioners, reducing agents, temperature depressors, viscosity modifiers, and warmth generators such as exothermic zeolites. Also useful herein are aesthetic components such as colourings, essential oils, and skin healing agents. Other optional materials herein include pigments. Pigments suitable for use in the compositions of the present invention can be organic and/or inorganic. Also included within the term pigment are materials having a low colour or lustre such as matte finishing agents, and also light scattering agents. Examples of suitable pigments are iron oxides, acyglutamate iron oxides, titanium dioxide, ultramarine blue, D&C dyes, carmine, and mixtures thereof.

Formulation Process

Preferably the compositions of the present method are prepared in such a way that the quaternary ammonium compound forms vesicles. It is preferred that said vesicles also comprise humectant. Preferably said vesicles also comprise emollient. In order to ensure optimal performance characteristics it is preferred that the compositions of the present invention are prepared as follows:

- (i) all or part of the quaternary ammonium agent is mixed with humectant, water soluble skin care actives (where included), and, preferably, polar solvent at a temperature which is higher than the melting point of the quaternary ammonium agent;
- (ii) optionally, the mixture is vigorously agitated;
- (iii) In a separate vessel the emulsion is prepared as follows; The oil phase containing the emollients, the relevant thickener in case the said thickener is oil soluble, and any remaining quaternary ammonium agent are mixed together at a temperature which is higher than the melting point of the quaternary ammonium compound. The aqueous phase is prepared separately. The water, the relevant thickener in case the said

thickener is water soluble, and any remaining water soluble ingredients are heated to the same temperature as the oil phase.

(iv) the temperature of the oil and aqueous phases of the emulsion are then approximately equalised and the aqueous phase is combined with the oil phase with agitation.

(v) On production of the emulsion the mixture formed in step (i) is added to the aforementioned emulsion with agitation.

Examples

- 10 The following examples further illustrate the preferred embodiments within the scope of the present invention. The examples are given solely for the purposes of illustration and are not to be construed as limitations of the present invention as many variations of the invention are possible without departing from its spirit or scope. Unless otherwise indicated, all ingredients are expressed on a weight percentage of the active ingredient.

Example Formulations:

Formulation	1	2	3	4	5	6	7	8	9	10	11	12	13	
	Weight %													
Quat. Amm. Agt (see notes)	3	3	3	3	3	3	3	3	3	3	3	3	3	A
Glycerine	32	32	32	32	32	32	32	-	-	-	-	-	-	A
Urea	-	-	-	-	-	-	-	22	22	22	22	22	22	A
Petrolatum	-	-	10	-	12	15	-	-	-	10	-	12	15	B
Lanolin ¹	-	-	-	7.5	5	-	15	-	-	-	10	10	-	B
Coronet Lanolin ¹	-	-	-	-	-	-	5	-	-	-	-	-	-	B
Super Sterol Esters ¹	-	-	-	-	-	-	5	-	-	-	-	-	-	B
Sefa Cottonate	21	21	12	12	-	-	-	21	21	12	12	-	-	B
Dimethicone 10Cst	-	0.5	0.5	0.5	-	0.5	0.5	0.5	-	-	-	0.5	0.5	B
Dimethicone 1000Cst	-	1.0	1.0	1.0	-	1.0	1.0	1.0	-	-	-	1.0	1.0	B
Cyclomethicone	-	2.5	2.5	2.5	-	2.5	2.5	2.5	-	-	-	2.5	2.5	B

Florasun PEG-10 ²	-	2	-	2	-	3	-	1	-	-	3	-	-	B
Methyl Paraben	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	A
Propyl Paraben	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	B
Disodium EDTA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A
Sodium Benzoate	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	B
Niacinamide	5	5	3		5	5	5	3	5			5	5	A
Panthenol	3	3	1		3	3	3	1	3			3	3	A
Tocopherol Acetate	2	2	0.5		2	2	2	0.5	2			2	2	B
Retinol Palmitate	0.1	-	-	-	-	-	0.05	-	-	0.1	-	-	-	B
Parsol 1789 ³	-	1	-	1	0.5	-	0.1	-	1	-	1	-	1	B
Parsol MCX ³	-	5	-	5	2.5	-	0.5	-	5	-	5	-	5	B
Citric acid	1	0.5	1	0.5	0.5	1	0.5	1	0.3	0.7 5	1	1	1	A
Salicylic acid	-	0.5	-	0.5	0.5	-	0.5	-	0.7	-	-	-	-	A
Triethanolamine	0.1	-	-	0.1	0.1	-	-	-	0.1	-	-	0.9	0.5	C
Sodium Hydroxide	-	-	0.1	0.1	0.1	-	-	0.1	-	0.1	-	-	-	C
Polyquaternium 10	-		-	1.0		-	0.5	-	0.6	-	-	-	0.5	B
Polymer KG 30 ⁴	-	0.7	-		0.7	-		-	-	0.8	-	-	-	B
Fragrance	0.5	0.5	0.5	0.5	0.5	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	E
Cetyl Alcohol	3	-	-	-	2.6	-	-	2.2	-	2.2	-	2.5	-	C
Stearyl Alcohol	2	-	-	-	1.5	-	-	3.2	-	1.1	-	1.6	-	C
Cetearyl Alcohol	-	-	4	-	0.4	-	-	-	3.4	-	-	-	3.4	C
Behenyl Alcohol	2	-	2	-	-	-	-	0.6	-	0.7	-	-	-	C
Natrosol 330 Plus	1	-	-	-	0.4	-	-	0.7	0.6		-	0.5	0.25	C
Natrosol 250 HHR	-	-	1	-	0.3	-	-	-	-	1.2	-	-	0.3	C
Jaguar HP 105 ⁵	-	1.2	-	-	-	-	-	-	-	-	0.8	-	-	D
Jaguar C14S ⁵	-	-	-	1	-	-	-	-	-	-	-	-	-	D
Jaguar C13S ⁵	-	-	-	-	-	1.2	-	-	-	-	-	-	-	D
Xanthan Gum	-	-	-	-	-	-	2.0	-	-	-	-	-	-	D
Sodium Chloride	-	-	0.1	-	-	-	0.5	0.2	-	0.3	-	-	-	A

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[illegible]

Formulation	14	15	16	17	18	19	20	21	22	23	24	25	26	
	Weight %													
Quat. Amm. Agt (see notes)t	8	8	8	8	8	8	8	8	8	8	8	8	8	A
Glycerine	32	32	32	32	32	32	32	-	-	-	-	-	-	A
Urea	-	-	-	-	-	-	-	22	22	22	22	22	22	A
Petrolatum	-	-	10	-	12	15	-	-	-	10	-	12	15	B
Lanolin ¹	-	-	-	7.5	5	-	15	-	-	-	10	10	-	B
Coronet Lanolin ¹	-	-	-	-	-	-	5	-	-	-	-	-	-	B
Super Sterol Esters ¹	-	-	-	-	-	-	5	-	-	-	-	-	-	B
Sefa Cottonate	21	21	12	12	-	-	-	21	21	12	12	-	-	B
Dimethicone 10Cst	-	0.5	0.5	0.5	-	0.5	0.5	0.5	-	-	-	0.5	0.5	B
Dimethicone 1000Cst	-	1.0	1.0	1.0	-	1.0	1.0	1.0	-	-	-	1.0	1.0	B
Cyclomethicone	-	2.5	2.5	2.5	-	2.5	2.5	2.5	-	-	-	2.5	2.5	B
Florasun PEG-10 ²	-	2	-	2	-	3	-	1	-	-	3	-	-	B
Methyl Paraben	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	A
Propyl Paraben	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	B
Disodium EDTA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A
Sodium Benzoate	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	B
Niacinamide	5	5	3		5	5	5	3	5			5	5	A
Panthenol	3	3	1		3	3	3	1	3			3	3	A
Tocopherol Acetate	2	2	0.5		2	2	2	0.5	2			2	2	B
Retinol Palmitata	0.1	-	-	-	-	0.05	-	-	-	-	-	-	0.1 5	B
Parsol 1789 ^a	-	1	-	1	0.5	-	0.1	-	1	-	1	-	1	B
Parsol MCX ^a	-	5	-	5	2.5	-	0.5	-	5	-	5	-	5	B
Citric acid	1	0.5	1	0.5	0.5	1	0.5	1	0.3	0.7	1	1	1	A

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										5				
Salicylic acid	-	0.5	-	0.5	0.5	-	0.5	-	0.7	-	-	-	-	A
Triethanolamine	0.1	-	-	0.1	0.1	-	-	-	0.1	-	-	0.9	0.5	C
Sodium Hydroxide	-	-	0.1	0.1	0.1	-	-	0.1	-	0.1	-	-	-	C
Polyquaternium 10	-		-	1.0		-	0.5	-	0.6	-	-	-	0.5	B
Polymer KG 30 ⁴	-	0.7	-		0.7	-		-	-	0.8	-	-	-	B
Fragrance	0.5	0.5	0.5	0.5	0.5	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	E
Cetyl Alcohol	3	-	-	-	2.6	-	-	2.2	-	2.2	-	2.5	-	C
Stearyl Alcohol	2	-	-	-	1.5	-	-	3.2	-	1.1	-	1.6	-	C
Cetearyl Alcohol	-	-	4	-	0.4	-	-	-	3.4	-	-	-	3.4	C
Behenyl Alcohol	2	-	2	-	-	-	-	0.6	-	0.7	-	-	-	C
Natrosol 330 Plus	1	-	-	-	0.4	-	-	0.7	0.6		-	0.5	0.2	C
												5		
Natrosol 250 HHR	-	-	1	-	0.3	-	-	-	-	1.2	-	-	0.3	C
Jaguar HP 105 ⁵	-	1.2	-	-	-	-	-	-	-	-	0.8	-	-	D
Jaguar C14S ⁵	-	-	-	1	-	-	-	-	-	-	-	-	-	D
Jaguar C13S ⁵	-	-	-	-	-	1.2	-	-	-	-	-	-	-	D
Xanthan Gum	-	-	-	-	-	-	2.0	-	-	-	-	-	-	D
Sodium Chloride	-	-	0.1	-	-	-	0.5	0.2	-	0.3	-	-	-	A
Water	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	A

Formulation	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
	Weight %															
Quat. Amm. Agt (see notes)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	A
Glycerine	15	16	22	9	8	9	-	32	32	32	32	32	32	32	32	A
Propylene Glycol	-	16	-	-	-	5	12	-	-	-	-	-	-	-	-	A
Butylene Glycol	-	-	8	8	-	8	12	-	-	-	-	-	-	-	-	A
Urea	-	-	-	12	-	2	9	-	-	-	-	-	-	-	-	A
Petrolatum	-	-	10	-	12	15	-	-	4	7.5	-	12	5	-	6	B

Lanolin ¹	-	-	-	7.5	7.5	-	15	-	3.5	-	3	-	-	-	-	B
Coronet Lanolin ¹	-	-	-	-	-	-	-	-	7	-	6.7	-	-	6	-	B
Super Sterol Esters ¹	-	-	-	-	-	-	-	-	3.5	-	6.5	-	3	6	3	B
Isohexadecane	-	-	-	-	-	-	-	-	-	5	-	3	-	-	3	B
Isononyl Isononanoate	-	-	-	-	-	-	-	-	-	3	-	5	-	-	-	B
Sefa Cottonate	21	21	12	12	-	-	-	13	-	8	-	-	8	12	10	B
Sefa Behenate	-	-	-	-	-	-	-	9	-	-	3	-	5	-	-	B
Dimethicone 10Cst	-	0.5	0.5	0.5	-	0.5	0.5	0.5	-	-	-	0.5	0.5	-	-	B
Dimethicone 1000Cst	-	1.0	1.0	1.0	-	1.0	1.0	1.0	-	-	-	1.0	1.0	-	-	B
Cyclomethicone	-	2.5	2.5	2.5	-	2.5	2.5	2.5	-	-	-	2.5	2.5	-	-	B
Florasun PEG-10 ²	-	2	-	2	-	3	-	1	-	-	3	-	-	2.5	-	B
Methyl Paraben	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	A
Propyl Paraben	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	B
Disodium EDTA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	A
Sodium Benzoate	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	B
Niacinamide	3	5	5			5	5	5	3	3		5	5	5	3	A
Panthenol	1	3	3			3	3	3	1	1		3	3	3	1	A
Tocopherol Acetate	0.5	2	2			2	2	2	0.5	0.5		2	2	2	0.5	B
Retinol Palmitate	-	-	-	0.1	-	0.05	-	-	0.1	-	-	-	-	-	-	B
Parsol 1789 ³	-	1	-	1	0.5	-	1	-	1	-	1	-	0.1	1	-	B
Parsol MCX ³	-	5	-	5	2.5	-	5	-	5	-	5	-	0.5	5	-	B
Citric acid	1	0.5	1	0.5	0.5	1	0.5	1	0.3	0.7	1	1	1	1	-	A
										5						
Salicylic acid	-	0.5	-	0.5	0.5	-	0.5	-	0.7	-	-	-	-	-	0.5	A
Triethanolamine	0.1	-	-	0.1	0.1	-	-	-	0.1	-	-	0.9	0.5	-	-	C
Sodium Hydroxide	-	-	0.1	0.1	0.1	-	-	0.1	-	0.1	-	-	-	-	0.6	C
Polyquaternium 10	-	-	-	1.0	-	-	0.5	-	0.6	-	-	-	0.5	1.0	-	B
Polymer KG 30 ⁴	-	0.7	-	-	0.7	-	-	-	-	0.8	-	-	-	-	0.8	B
Fragrance	0.5	0.5	0.5	0.5	0.5	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	E
Cetyl Alcohol	3	-	-	-	2.6	-	-	2.2	-	2.2	-	2.5	-	-	3.2	C
Stearyl Alcohol	2	-	-	-	1.5	-	-	3.2	-	1.1	-	1.6	-	-	2.6	C
Cetearyl Alcohol	-	-	4	-	0.4	-	-	-	3.4	-	-	-	3.4	-	-	C

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Behenyl Alcohol	2	-	2	-	-	-	-	0.6	-	0.7	-	-	-	-	0.2	C
Natrosol 330 Plus	1	-		-	0.4	-	-	0.7	0.6		-	0.5	0.2	-	0.6	C
													5			
Natrosol 250 HHR	-	-	1	-	0.3	-	-	-	-	1.2	-	-	0.3	-	-	C
Jaguar HP 105 ⁵	-	1.2	-	-	-	-	-	-	-	-	0.8	-	-	-	-	D
Jaguar C14S ⁵	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	D
Jaguar C13S ⁵	-	-	-	-	-	1.2	-	-	-	-	-	-	-	0.8	-	D
Xanthan Gum	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	D
Sodium Chloride	-	-	0.1	-	-	-	0.5	0.2	-	0.3	-	-	-	0.2	0.1	A
Water	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	A

Formulation	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	
	Weight %															
Quat. Amm. Agt (see notes)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	A
Glycerine	15	16	22	9	8	9	-	32	32	32	32	32	32	32	32	A
Propylene Glycol	-	16	-	-	-	5	12	-	-	-	-	-	-	-	-	A
Butylene Glycol	-	-	8	8	-	8	12	-	-	-	-	-	-	-	-	A
Urea	-	-	-	12	-	2	9	-	-	-	-	-	-	-	-	A
Petrolatum	-	-	10	-	12	15	-	-	4	7.5	-	12	5	-	6	B
Lanolin ¹	-	-	-	7.	7.	-	15	-	3.5	-	3	-	-	-	-	B
				5	5											
Coronet Lanolin ¹	-	-	-	-	-	-	-	-	7	-	6.	-	-	6	-	B
											7					
Super Sterol Esters ¹	-	-	-	-	-	-	-	-	3.5	-	6.	-	3	6	3	B
											5					
Isohexadecane	-	-	-	-	-	-	-	-	-	5	-	3	-	-	3	B
Isononyl Isononanoate	-	-	-	-	-	-	-	-	-	3	-	5	-	-	-	B
Sefa Cottonate	21	21	12	12	-	-	-	13	-	8	-	-	8	12	10	B
Sefa Behenate	-	-	-	-	-	-	-	9	-	-	3	-	5	-	-	B
Dimethicone 10Cst	-	0.	0.5	0.	-	0.	0.	0.	-	-	-	0.5	0.	-	-	B
		5		5		5	5	5					5			
Dimethicone	-	1.	1.0	1.	-	1.	1.	1.	-	-	-	1.0	1.	-	-	B

1000Cst		0		0		0	0	0					0			
Cyclomethicone	-	2. 5	2.5	2. 5	-	2. 5	2. 5	2. 5	-	-	-	2.5	2. 5	-	-	B
Florasun PEG-10 ²	-	2	-	2	-	3	-	1	-	-	3	-	-	2.5	-	B
Methyl Paraben	0. 5	0. 5	0.5	0. 5	0. 5	0. 5	0. 5	0. 5	0.5	0.5	0. 5	0.5	0. 5	0.5	0. 5	A
Propyl Paraben	0. 5	0. 5	0.5	0. 5	0. 5	0. 5	0. 5	0. 5	0.5	0.5	0. 5	0.5	0. 5	0.5	0. 5	B
Disodium EDTA	0. 1	0. 1	0.1	0. 1	0. 1	0. 1	0. 1	0. 1	0.1	0.1	0. 1	0.1	0. 1	0.1	0. 1	A
Sodium Benzoate	0. 3	0. 3	0.3	0. 3	0. 3	0. 3	0. 3	0. 3	0.3	0.3	0. 3	0.3	0. 3	0.3	0. 3	B
Niacnamide	3	5	5			5	5	5	3	3		5	5	5	3	A
Panthenol	1	3	3			3	3	3	1	1		3	3	3	1	A
Tocopherol Acetate	0. 5	2	2			2	2	2	0.5	0.5		2	2	2	0. 5	B
Retinol Palmitate	-	-	-	-	-	-	-	-	0.0 5	-	-	0.1	-	-	-	B
Parsol 1789 ³	-	1	-	1	0. 5	-	1	-	1	-	1	-	0. 1	1	-	B
Parsol MCX ³	-	5	-	5	2. 5	-	5	-	5	-	5	-	0. 5	5	-	B
Citric acid	1	0. 5	1	0. 5	0. 5	1	0. 5	1	0.3	0.7 5	1	1	1	1	-	A
Salicylic acid	-	0. 5	-	0. 5	0. 5	-	0. 5	-	0.7	-	-	-	-	-	0. 5	A
Triethanolamine	0. 1	-	-	0. 1	0. 1	-	-	-	0.1	-	-	0.9	0. 5	-	-	C
Sodium Hydroxide	-	-	0.1	0. 1	0. 1	-	-	0. 1	-	0.1	-	-	-	-	0. 6	C
Polyquaternium 10	-	-	-	1. 0	-	-	0. 5	-	0.6	-	-	-	0. 5	1.0	-	B
Polymer KG 30 ⁴	-	0. 7	-	-	0. 7	-	-	-	-	0.8	-	-	-	-	0. 8	B
Fragrance	0.	0.	0.5	0.	0.	-	0.	0.	0.5	0.5	0.	0.5	0.	0.5	0.	E

	5	5		5	5		5	5			5		5		5	
Cetyl Alcohol	3	-	-	-	2.	-	-	2.	-	2.2	-	2.5	-	-	3.	C
					6			2							2	
Stearyl Alcohol	2	-	-	-	1.	-	-	3.	-	1.1	-	1.6	-	-	2.	C
					5			2							6	
Cetearyl Alcohol	-	-	4	-	0.	-	-	-	3.4	-	-	-	3.	-	-	C
					4								4			
Behenyl Alcohol	2	-	2	-	-	-	-	0.	-	0.7	-	-	-	-	0.	C
								6							2	
Natrosol 330 Plus	1	-		-	0.	-	-	0.	0.6		-	0.5	0.	-	0.	C
					4			7					25		6	
Natrosol 250 HHR	-	-	1	-	0.	-	-	-	-	1.2	-	-	0.	-	-	C
					3								3			
Jaguar HP 105 ⁵	-	1.	-	-	-	-	-	-	-	-	0.	-	-	-	-	D
		2									8					
Jaguar C14S ⁵	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	D
Jaguar C13S ⁵	-	-	-	-	-	1.	-	-	-	-	-	-	-	0.8	-	D
						2										
Xanthan Gum	-	-	-	-	-	-	3.	-	-	-	-	-	-	-	-	D
							0									
Sodium Chloride	-	-	0.1	-	-	-	0.	0.	-	0.3	-	-	-	0.2	0.	A
							5	2							1	
Water	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	qs	A

1; Available from Croda

2; Available from Floratech, AZ, USA

3; Available from Hoffman La Roche, NJ, USA

5 4; Available from Amerchol, NJ, USA

5; Available from Rhodia, NJ, USA

- In formulations 1, 4, 7, 9, 17, 20, 22, 24, 28, 36, 38, 47, 49, 53, 56 the quaternary ammonium compound used is Distearyl Dimethyl Ammonium Chloride supplied by Goldschmidt, trade name Varisoft TA100.
- In examples 2, 3, 5, 6, 8, 10, 15, 16, 18, 19, 21, 23, 26, 27, 31, 33, 34, 35, 37, 41, 45, 46, 48, 50, 51, 52, 54, 55 the quaternary ammonium compounds used

is N,N-di(canolyl-oxy-ethyl)-N methyl,N-(2-hydroxyethyl)Ammonium Methyl Sulfate supplied by Goldschmidt, trade name Rewoquat V3620.

- In Example 11 the quaternary ammonium compound used is N,N-di(canolyl-oxy-ethyl)-N methyl,N-(2-hydroxyethyl)Ammonium Methyl Sulfate supplied by Goldschmidt, trade name Rewoquat WE18
- In Example 12 the quaternary ammonium compound used is N,N-di(canolyl-oxy-ethyl)-N methyl,N-(2-hydroxyethyl)Ammonium Chloride supplied by Goldschmidt, developmental material (WE25)
- In Example 13 the quaternary ammonium compound used is Methylbis(hydrogenated tallowamidoethyl)(2-hydroxyethyl)ammonium methyl sulfate supplied by Goldschmidt, trade name Varisoft 110.
- In Example 14 the quaternary ammonium compound used is Methylbis(tallowamidoethyl)(2-hydroxyethyl)ammonium methyl sulfate supplied by Goldschmidt, trade name Varisoft 222.
- In Example 25 the quaternary ammonium compound used is Methyl-1-tallowylethyl-2-tallowimidazoline supplied by Goldschmidt, developmental material
- In Example 29 the quaternary ammonium compound used is Methyl-1-tallowamidoethyl-2-tallowimidazoline supplied by Goldschmidt, developmental material
- In Example 30 the quaternary ammonium compound used is Methyl-1-tallowylethyl-2-tallowimidazolinium methyl sulfate supplied by Goldschmidt,
- In Example 32 the quaternary ammonium compound used is Methyl-1-tallowamidoethyl-2-tallowimidazolinium methyl sulfate supplied by Goldschmidt, trade name Varisoft 475, Varisoft 445
- In Example 39 the quaternary ammonium compound used is N,N-Dimethyl-N-(canolyl-oxy-ethyl)-N-(canolamidoethyl) amine, supplied by Kao.
- In Example 40 the quaternary ammonium compound used is N,N-Dimethyl-N-(canolyl-oxy-ethyl)-N-(canolamidoethyl) Ammonium Methyl Sulfate, supplied by Kao
- In Example 42 the quaternary ammonium compound used is N,N'-Bis(2-talloxyloxyethyl)-N,N,N',N'-Tetramethylene Diammonium Dichloride, as disclosed in patents US 4728337, US 4721512, US 4906413 from Ciba-Geigy Corporation
- In Example 43 the quaternary ammonium compound used is N,N'-Bis(2-canolyloxyethyl)-N,N'-Dimethyl-N,N'-(2-Hydroxyethyl)-1,6-Hexane

Diammonium Methyl Sulfate, as disclosed in patents EP 0503155A1 & EP 0803498 from Goldschmidt-Witco.

- In Example 44 the quaternary ammonium compound used is the di and oligo ester quats made by the reaction of fatty acid, di functional (or multi functional) acid and triethanolamine followed by quaternisation as disclosed in WO98/49132 by Kao and US 5880289 by Henkel.

Process

For those examples including component C:

1. Premix 1: Combine components of group A together at a temperature greater than the transition temperature of the chosen quaternary ammonium compound, keeping back a predetermined part of the quaternary ammonium compound and water. Vigorously agitate this premix.
2. Premix 2: Combine components of groups B and C with the remaining parts of the quaternary ammonium compounds and water not previously used in premix 1. Heat above the melting point of the quat and the oils.
3. Combine Premix 1 & 2 and allow to cool until 40°C, stir in the perfume.

For those examples including component D:

1. Premix 1: Combine components of group A together at a temperature greater than the transition temperature of the chosen quaternary ammonium compound, keeping back a predetermined part of the water. Vigorously agitate this premix.
2. Premix 2: Combine with agitation the components of group D with the water not previously used in premix 1.
3. Combine Premix 1 & 2 and components of groups B & E. Vigorously agitate.

Examples

1. Formulations 1 to 56 above can be applied to the skin and then rinsed off resulting in better moisturised skin.
2. Formulations 1 to 56 above can be applied to the skin after washing with a composition comprising surfactants. The product should be applied directly to wet skin after rinsing off the surfactant based product. The composition should then be rinsed off. This results in moisturised skin which has little damage caused by the composition containing surfactants.

3. Formulations 1 to 56 above should be used as part of a regular routine, therefore the composition should be applied to wet skin, the skin should be rinsed and the product should be used in the same manner within 48 hours. This results in moisturised skin which is protected against damage from surfactant based products.
4. Formulations 1 to 56 above can be applied to problem dry skin areas prior to wetting the skin. After a short time period the skin can be wet and washed with surfactants. Subsequent application of the compositions above, followed by rinsing, will result in an area of skin that has been intensively moisturised. This "pretreatment step" is particularly effective for very dry skin or simply an enhanced benefit from the product.
5. Formulations 1 to 56 above can be applied to problem dry skin areas prior to wetting the skin. After a short time period the skin can be rinsed. Subsequent application of the compositions above, followed by rinsing, will result in an area of skin that has been intensively moisturised. This "pretreatment step" is particularly effective for very dry skin or simply an enhanced benefit from the product.
6. Formulations 1 to 56 above can be applied to wet skin prior to shaving. Prior to shaving apply the product on wet skin and use in place of a normal shaving foam. After shaving rinse the skin. This results in moisturised skin after shaving.
7. Formulations 1 to 56 above can be used during the shaving regimen. After shaving the product should be applied to the skin and the skin subsequently rinsed. This results in smoother, more moisturised skin after shaving.
8. Formulations 1 to 56 above can be applied after swimming. The product should be applied after first rinsing the majority of the chlorine containing water away. After application the skin should be rinsed. The skin will be moisturised and the damage caused by the chlorine will be minimised.
- The method of the above examples provide good skin care benefits, such as good moisturisation, good hydration, good skin feel, good skin softness and/or good skin smoothness, with low levels of negatives such as greasiness, stickiness or tack.

Claims

1. A cosmetic method of treating skin comprising:
- 5 (i) applying to skin a composition comprising:
- (a) at least one quaternary ammonium agent;
- (b) humectant; and
- (ii) rinsing the skin.
- 10 2. A method according to Claim 1 wherein said composition comprises greater than 1%, preferably at least 2%, by weight, of quaternary ammonium agent.
- 15 3. A method according to Claim 1 or 2 wherein said composition comprises greater than 4%, preferably greater than 5%, more preferably at least 10%, by weight of humectant.
- 20 4. A method according to any of the preceding claims wherein said composition comprises vesicles, said vesicles comprising quaternary ammonium agent and humectant.
- 25 5. A method according to any of the preceding claims comprising
- (i) applying to dry skin a composition comprising:
- (a) at least one quaternary ammonium agent;
- (b) humectant; and
- (ii) rinsing the skin.
- 30 6. A method according to any of the preceding claims wherein said method comprises:
- (i) applying to dry skin a composition comprising at least one quaternary ammonium agent and humectant;
- (ii) rinsing the skin under a shower;
- (iii) further application of said composition; and
- (iv) further rinsing.
- 35 7. A method according to any of the preceding claims wherein said composition comprises a humectant selected from glycerine, urea, butylene glycol, polyethylene glycol and derivatives thereof, or mixtures thereof.

8. A method according to any of the preceding claims wherein the quaternary ammonium agent is readily biodegradable.

5 9. A method according to any of the preceding claims wherein said method comprises:

(i) applying to the skin a composition comprising:

(a) at least one quaternary ammonium compound;

(b) humectant; and

10 (ii) rinsing the skin;

(iii) repeating steps (i) and (ii) within 48 hours.

10. A method according to any of the preceding claims wherein said method comprises:

15 (i) washing the skin using a composition comprising surfactants;

(ii) rinsing the skin;

(iii) applying to the wet skin a composition comprising at least one quaternary ammonium agent and humectant;

20 (iv) rinsing the skin.

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Abstract

According to the present invention there is provided a cosmetic method comprising:

- 5 (i) applying to the skin a composition comprising:
 - (a) at least one quaternary ammonium agent; and
 - (b) humectant;
- (ii) rinsing the skin
- 10 The methods of the present invention give good skin care benefits, such as good moisturisation, good hydration, good skin feel, good skin softness and/or good skin smoothness, with low levels of negatives such as greasiness, stickiness or tack.

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